

****ATTENTION****

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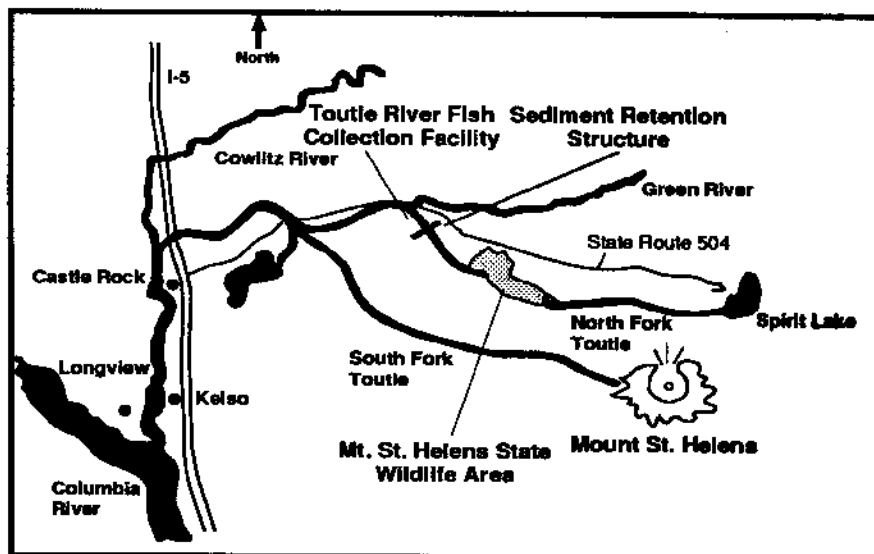
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TOUTLE FISH COLLECTION FACILITY

The Toutle River Fish Collection Facility (FCF) is located on the North Fork Toutle River in southwest Washington. Constructed at a cost of about \$7.5 million by the Corps of Engineers in 1989, the FCF allows capture of adult steelhead before they reach the Corps' sediment retention structure, an impassable barrier, located two kilometers upstream. The purpose of the FCF is to aid in restoring wild salmon, cutthroat and steelhead production above the sediment retention structure to levels equal to or greater than production before the 1980 eruption and destruction of the Toutle River watershed.

The FCF is staffed by two operators who capture upstream-migrating adult fish in the river. Incoming fish are collected in a pond, crowded by an automatic crowding screen, then hand-sorted into groups of hatchery and wild adults. Fish are anesthetized using carbon dioxide, tagged and trucked to various locations in the Toutle River drainage for release. Cutthroat trout, wild winter steelhead and coho salmon are trucked above the sediment retention structure to spawn. Hatchery summer steelhead are trucked downstream to enhance fishing. FCF staff also collect biological information on juvenile fish production above the dam, conduct creel and spawner surveys and monitor run status.



During the first eight months of operation, about 1,100 fish were trucked to various release locations in the Toutle. These included spring chinook and coho salmon, scarus cutthroat and summer steelhead (hatchery and wild).

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TOUTLE RIVER FISH RECOVERY

Before the eruption of Mt. St. Helens in 1980, the Toutle River supported excellent runs of winter and summer steelhead, searun cutthroat, and coho and spring and fall chinook salmon. It was ideal for anglers.

May 18, 1980

But on May 18, 1980, the mountain erupted, sending hot mud down both the north and south forks of the Toutle, boiling alive any fish or wildlife unfortunate enough to be in its path. Over 150,000 acres of timber were either blasted over or seared by the heat. This entire "blast area" was reduced to a stark gray wasteland, devoid of vegetation and other signs of life. Ash covered most of the Toutle drainage, but was especially heavy in the Green River, a tributary of the North Fork of the Toutle.

Many fish were killed by the mudflows and blast, but even the survivors struggled against tremendous odds to complete their normal life cycle. One immediate problem was a severe disruption of the river food chain. Algae, which covers the bottom of most streams, is the basic link of the chain. Muddy water in the Toutle stifled algae growth by preventing sunlight from penetrating to the bottom. This in turn reverberated up the food chain as the availability of food declined, first for aquatic insects, then for insect-eating fish.

With the loss of streamside

vegetation, water temperature soared during the summer, reaching levels near the tolerance limits of fish. Water quality was atrocious. To breathe, fish had to pump mud-laden water through their gills—sandblasting their delicate gill filaments.

Reproduction was another problem. Salmon and steelhead bury their eggs in gravel for protection from predators. But accumulations of silt in the Toutle prevented oxygen from reaching the eggs, causing suffocation. Clean gravel was a rare commodity in the Toutle.

Overall, the picture was bleak. The only bright spots were several small tributary streams that miraculously escaped the influence of mudflows, blast and ashfall. These streams still possessed the ingredients necessary for fish survival.

Life Returns

As time passed, life was returning beneath the gray ash and debris. Small cracks appeared in the ash as plants pushed through to daylight. Wherever live mature alders provided seed, small alders sprang up like a lush green carpet. Because of their ability to fix nitrogen from the atmosphere, alders played a critical role restoring fertility to mudflow soils.

Another miracle was underway beneath the turbid waters of the Toutle. With the shortage of suitable spawning

gravel, fish spawned in mudflow sediments. Several small tributaries near the mouth of the Toutle, normally passed by for more desirable streams, were choked with adult fish apparently seeking the first available clean water after entering the silt-laden Toutle. Remarkably, many fry hatched out in these streams.

Toutle stocks also showed their resilience at the mouth of the Cowlitz River, where Toutle water finally finds the Columbia River. Normally, only a few fish born and reared in a particular river system will stray to other rivers to spawn. These fish act as an evolutionary safety valve for disasters like flood or landslides that jeopardize their native stream. As fish returned to the Cowlitz mouth and found the silty water, many simply continued to other Columbia River streams to spawn. Nearby streams were swamped with adult fish from the Cowlitz and Toutle systems.

Most of these strays will probably steer clear of the volcanic sediments until conditions improve. As the water clears up, fish will begin to wander from other drainages back into the Cowlitz and Toutle watersheds. Offspring of these fish will be the Toutle stocks of the future. Strays into the Toutle will also provide genetic diversity to protect against disease outbreak or other natural calamity.

The complex life cycles of native fish stocks provided other mechanisms